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ABSTRACT

This paper reports results of the first systematic analysis of the progress of standards-based reform in U.S. school districts. Using data from a recent national survey of school districts (n=2,700) and a companion national survey of schools (n=1,177), it is found that not only do districts appear to play an important role, bigger districts appear to be particularly successful in promoting reform. Those who see reform as an exclusively state-school process may miss key ingredients for success. It is also a mistake to assume that large districts are not responsive. The benefits of larger size, however, appear to be moderated in high-poverty districts. An appendix contains questions on progress from the district and school surveys. (Contains 4 tables, 5 figures, and 31 references.) (Author/SLD)

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BIG ISN'T ALWAYS BAD: SCHOOL DISTRICT SIZE, POVERTY, AND STANDARDS-BASED REFORM

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Abstract

This paper reports results of the first systematic analysis of the progress of standards-based reform in U.S. school districts. Using data from a recent national survey of school districts and a companion national survey of schools, we find that not only do districts appear to play an important role, bigger districts appear to be particularly successful in promoting reform. Those who see reform as an exclusively state-school process may miss key ingredients for success. It is also a mistake to assume that large districts are not responsive. The benefits of larger size, however, appear to be moderated in high-poverty districts.

For most of the twentieth century, school districts in the United States exercised tremendous power, determining financial resource levels and expenditure patterns, hiring and supervising teachers and other staff, and designing the education program. The traditional power of districts in the United States is striking in comparison to other countries, many of which have no local governance bodies (Travers and Westbury, 1989). But some analysts think the days of school districts in the United States are numbered. Elmore (1997), for example, sees a continued "push toward state-to-school accountability measures," perhaps leaving districts in a "spectator" role. Others go further and view school districts, especially large school districts, as part of the problem of education in the United States. Guthrie, for example, argues that centralizing authority in larger and larger school systems and effectively disenfranchising individual local schools is the main reason "America has lost its way in education" (Guthrie, 1997, p.34).[1] Still other analysts implicitly question the role of districts by doubting the value of expenditures outside the classroom (e.g., Hanushek, 1996).

Low expectations for the contribution of school districts to improving student performance should not be surprising. School districts historically have not focused heavily on matters of teaching and learning, tending to focus more on procedural and accounting matters (Hannaway and Sproull, 1979; Rowan, 1983; Hannaway, 1989). Increased accountability from state and federal agencies for higher standards of student performance and the limited capacity of many individual schools to meet the challenges of higher standards, however, may shape a new focus for district-level efforts (Elmore and Fuhrman, 1990; Spillane, 1996; Kirst, 1995; Corcoran and Goertz, 1995; Cohen and Spillane, 1992; Jennings and Spillane, 1997; Spillane, 1998). In short, viewing state-local relations as a zero-sum game may be misplaced (Elmore and Fuhrman, 1990). School districts may be particularly well-positioned to advance state reforms and to facilitate school level implementation, and the bigger the district the more it may have to offer. Indeed, an expanded state role may lead to an expanded district role.

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[1] In the last fifty years school district consolidation has resulted in a dramatic decrease in the number of school districts—from 101,382 in 1945 to 14,772 in 1995, a decline of 85 percent—and a concomitant increase in district size. Indeed, fully 30 percent of U.S. students now attend schools in districts with more than 25,000 students.

We examine issues related to the district role in education reform by drawing on data from two companion national surveys as well as national archival files. The first survey, conducted by the Urban Institute, collected data from a national sample of school districts.[2] The purpose of the survey was to assess the progress of standards-based reform by asking districts about (1) the progress they were making in particular aspects of reform, e.g., establishing standards, aligning professional development with standards, and (2) the sources of information and assistance that they find helpful in their efforts. We incorporated data from the Agency File, Common Core of Data (CCD), on district size and from the decennial census on poverty in the district. The second survey, conducted by Westat, collected data from a national sample of schools using similar questions.[3]

The two samples—the district sample and the school sample—were designed independently. That is, while the two surveys were conducted within the same time frame, the schools surveyed are not nested within the districts surveyed. Using data from the Common Core, however, we are able to assign to schools the characteristics of the districts in which they reside and to determine the extent to which district characteristics that are related to progress reported at the district level are also related to progress reported at the school level. The samples and the data we use from each of these surveys are described more fully later.

Conceptual Background

The primary focus here is the relationship between district size and the progress in standards-based reform efforts reported by districts and by schools. We are particularly interested in the effect of district size on reform in high poverty school districts. This interest stems from policy concerns as well as a theoretical puzzle.

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[2] Hannaway with Kimball. *Reports on Reform from the Field: District and State Survey Results*. Final Report submitted to the Planning and Evaluation Service, U.S. Department of Education, Washington, D.C. (Contract No. LC9405301) The Urban Institute, Washington, D.C., 1997.

[3] *Final Report: Fast Response Public School Survey on Education Reform*. Washington, D.C.: U.S. Department of Education, 1997.

From a policy perspective, while the largest school districts, those with enrollments over 25,000, account for a small fraction of the school districts in the United States (1.3 percent), they account for a large fraction of the student population (30 percent).[4] Thus, reforms that occur in these relatively few districts affect a large number of students in the United States. For this reason alone, an analysis of reform in large districts is important. Big districts are also under attack. Large district size is often blamed for low school productivity (e.g., Walberg, 1998); and proposals for breaking up large districts, for example in Philadelphia and Los Angeles, have generated considerable interest. Large districts, especially urban ones, often also have a large fraction of students from poor families and typically face serious performance problems. Distinguishing the effect of poverty and the effect of size, as well as understanding their combined effect is, thus, important.

In the organizational literature, the benefits and costs of large organizational size are the subject of much analysis. The conventional wisdom is that large size leads to bureaucratization and heavy administrative costs (e.g., Parkinson, 1957), but empirical findings examining this relationship are inconsistent. Two effects of large organizational size work against each other: the increased differentiation typically associated with large size leads to a more elaborate administrative structure (e.g., for purposes of coordination); but economies of scale lead to decreased proportionate administrative costs (Blau, 1970). Many observers also presume that large size leads to increased centralization, but again the empirical findings do not necessarily support this supposition. Larger organizations generate more rules and regulations, but also exhibit more decentralized decisionmaking (see Scott, 1992, for review). Larger organizations also tend to be more highly differentiated with more specialized positions and specialized subunits. And though differentiation produces coordination costs, it also yields efficiencies to the extent that specialization promotes expertise in important areas.

When we turn to school districts the picture becomes more complicated. Attempts to

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[4] A sizeable fraction of the student population also attends schools in small districts. Districts, for example, will less than 2500 students account for almost 75 percent of districts in the United States and 20 percent of the student population. *Digest of Educational Statistics*, 1995.

determine the efficiency advantages and disadvantages of larger size have been largely inconclusive, though larger districts are generally viewed to be less efficient in enhancing student outcomes (Bidwell and Kasarda, 1975; Kenny, 1982; Butler and Monk, 1985; Walberg and Fowler, 1987). Concern about the possibly negative consequences of size has focused on both extremes of the size distribution—the largest districts and the smallest ones.

The relationship between district size and student performance appears not to be a simple bivariate one. Friedkin and Nocochea (1988), for example, found that the relationship between district size and student achievement depends on the socioeconomic characteristics of students in the district. Among low SES school systems the relationship between district size and student performance is strongly negative, but this relationship weakens and, indeed, is eliminated among higher SES school systems. The authors reason that large size presents districts with both opportunities and constraints. The opportunities are in the form of additional resources produced through economies of scale; the constraints are in the form of significant numbers of students with social needs producing service units that detract attention from the core instructional focus of the district. Hannaway and Talbert (1993) similarly find differences between urban and suburban districts in the effect of district size on school process measures commonly presumed to affect school productivity; larger size appears to benefit suburban districts but to pose problems for urban districts, perhaps because large urban districts are generally politically more complex and contentious than large suburban districts (Hannaway, 1993).

A limitation of all these studies, for our purposes, is that they are concerned with the relationship between district size and educational productivity during "steady state." In this study we are concerned with the effect of size on reform; i.e., we are interested in the effect of district size on adaptation and change. The question, however, can be framed similarly to earlier research; large size may well have advantages for advancing reform under some conditions but disadvantages under other conditions, as discussed below.

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On one hand, larger districts, as a consequence of economies of scale, are likely to have slack resources available that could be directed to facilitating the reform process. While such resources might indicate inefficiency during "steady state," the classic analysis of Cyert and March (1963) features organizational slack as a critical element for successful organizational adaptation to a changing environment. These resources might be deployed, for example, to analyze new demands on the district, plan district responses, allow for investments of various types, and overall result in a smoother and better informed change process. Differentiation and specialization within large organizations, to the extent that they relate to important dimensions of change, are also likely to facilitate reform. For example, school districts with an assessment unit are probably better able, and more likely, to monitor developments in accountability policies, effectively evaluate how they might affect assessment strategies, and have the skills and knowledge to respond appropriately and in a timely manner.

On the other hand, we might expect larger districts, constrained by regulations and bureaucracy, not to be as nimble as smaller districts in responding to pressures for change. To the extent that differentiation and specialization are entrenched and not related to areas of change, they could generate a "drag" on the system or, at best, have no effect (other than consuming resources). And if larger size is associated with more special interest groups, reform might be impeded by a cumbersome, and perhaps contentious, decisionmaking process. While we do not have data to explore fully the processes by which size may facilitate or impede reform, we are able to assess the effects, on average, of district size on reports of reform progress by administrators at both the district and the school level.

Study Design

Sample, Data, and Methods

District Survey. The District Survey resulted from a congressional mandate for the U.S. Department of Education to report on the implementation of federal educational reforms, including Goals 2000 and the 1994 reauthorization of the Elementary and Secondary Education Act (ESEA), designed to support state and local efforts to raise academic standards in schools. It represents the first systematic attempt to assess the progress of standards-based reform. A random sample of school districts was chosen from the Common Core of Data (CCD). The universe was restricted to those districts with at least 300 students, resulting in a universe of 11,143 districts. The sample was designed to be nationally representative of school districts, stratified by whether the district was located in an "early reform" state,[5] by the poverty level in the district (percentage of children ages 5 through 17 in poverty, as reported in the census), and by district enrollment (from the CCD). Appropriate corrections were made to standard errors in the analysis to take into account the sampling design. The final sample includes 2700 districts, representing a response rate of 83 percent.

The district survey was sent by mail to the district superintendents in the spring and summer of 1996, but superintendents were told they could pass it on to someone else in the district who might be more knowledgeable about the topics covered in the survey. Eighty-six percent of the surveys were completed by superintendents or by directors or assistant superintendents in charge of curriculum and instruction in the district.[6]

Responses to questions about district progress in different areas of reform implementation are central to our analysis. Specifically, the survey asked respondents to report on a 4-point scale their

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[5] The "early reform" states, identified by a panel of national experts as states moving ahead with systemic efforts to raise academic standards, are Kentucky, Oregon, and Maryland.

[6] Seven percent were completed by Title I or Federal Program Coordinators, and the remainder were completed by principals (2.7 percent), generally in small districts, or were "missing values."

progress ("have not begun," "little progress," "some progress," "a great deal of progress") on the following six elements of standards-based reform:

- Establishing high content and performance standards for all students;
- Aligning curricula and instructional materials with standards;
- Developing or adopting assessments linked to standards;
- Linking professional development to standards;
- Linking school/district accountability to student performance; and
- Building partnerships with parents/community.

School Survey. The school survey was administered by mail, with follow-up phone calls, to 1360 principals in a nationally representative sample of public schools in the United States in the spring of 1996 and asked questions about the extent to which various elements of standards-based reform are being implemented in the school. The sample was stratified by instructional level (elementary, middle, high school), enrollment, and poverty (percentage of students receiving free/ reduced lunch). High poverty schools were oversampled. Responses were received from 1216 schools for a response rate of 89 percent. To make the sample correspond to the district sample, we excluded from our analyses 39 schools located in districts with enrollments less than 300. Thus, the analyses are based on responses of 1177 schools. Weights were used in the analyses to correct for biases introduced by the sampling plan, and standard errors were corrected accordingly.

Two questions from the school survey are used to gauge progress in implementation (see Appendix A for survey items). The first question asked principals to report on a four-point scale ("not at all," "small extent," "moderate extent," "great extent") the extent to which their school was using content standards in four areas: reading/language arts, mathematics, science, history/social studies. The second question, using the same four-point scale, asked the extent to which eight reform strategies were being implemented in their school: strategic planning, professional development, instructional materials, innovative technologies, linking assessments to standards, using assessments for school accountability,

parent involvement, and restructuring the school day.

Two major sections of results follow. The first examines the extent to which different characteristics of school districts are associated with reports of progress on various elements of reform. The second moves to the school level and examines the extent to which district characteristics that are related to reports of progress at the district level—district size, district poverty, and early reform status—are also associated with reports of progress at the school level.

We should note that we have no measures of *actual* progress in school districts and schools since survey data consist only of *reports* of progress. The presumption is that administrators in schools/districts moving ahead with reform are more likely to report progress than administrators in schools/districts unmoved by reform, resulting in district and school level reports varying systematically with the progress they are actually experiencing. The data also suggest reasons to have reasonable confidence that the reports of progress are correlated with actual progress. First, patterns of responses make sense as a qualitative picture. For example, larger districts not only report greater progress, but also more extensive networks of support and assistance than smaller districts (Hannaway with Kimball, 1997). Second, reports from the district level and reports from the school level are associated with many of the same factors. In a sense, the school level findings provide an independent test of the relationships shown in district level findings. In addition, the large district and school samples used here allow us to obtain reasonably accurate estimates of the associations of interest.

We should also note that the surveys were completed in the spring of 1996 and there has likely been further progress in reform since the data were collected. Our purpose here is not to provide an up-to-date snapshot of the state of reform, but rather to examine factors related to reports of progress at the early stages of organizational adaptation. The findings suggest characteristics of districts able to move quickly with reform and the characteristics of those moving more slowly. Subsequent studies can assess whether the early movers maintain their advantage.

Descriptive Results

Most districts reported making progress in standards-based reform, although the percentage reporting different levels of progress varies with the particular element of reform. Districts nationally reported the *greatest* progress in "establishing content and performance standards" and the *least* progress in "linking school/district accountability to student performance" and "developing or adopting assessments linked to standards." Indeed, at the time of the survey about one-third of the districts reported making "little" or "no" progress in areas of assessment and accountability (see Figure 1 at end of text).

Our analyses focus on respondents' reports of making "a great deal" of progress, since such reports most clearly suggest districts are making good headway. Table 1 shows how reports of progress differ for districts in different size ranges. As can be seen, the likelihood of reporting "a great deal" of progress increases with the size of the district. The smallest districts, those with enrollments between 300 and 2500, are the least likely to report high levels of progress in any reform elements. For "building partnerships with parents/community" and "linking school/district accountability to student performance," the benefits of larger size are particularly pronounced. For example, only 13 percent of the smallest districts report making a great deal of progress in accountability, but more than a third of the largest districts do. For other elements of reform, the benefits of larger size appear to taper off earlier. The step-like relationship between reported progress and district size is shown in Figure 2.

Factors beyond district size, of course, are likely to affect reform progress. For example, districts with large fractions of children in poverty, spurred by reform-oriented provisions in Title I, may be particularly likely to make good reform headway. Conversely, we might expect progress in these districts to lag since they typically deal with more demanding educational problems and often more

complex political environments. Progress in districts in different policy contexts might also vary. For example, districts receiving Goals 2000 funding, support designed to facilitate the reform process,[7] and districts in "early reform" states, which aggressively pursue reform, might report greater progress than other districts. We examine these possibilities below.

Table 1 shows that low-poverty districts,[8] not high-poverty districts, reported greater progress across most areas of reform, though only statistically significant for "establishing high content and performance standards" and "building partnerships w/ parents/ community." Both the highest and the lowest poverty districts reported making significantly more progress in "linking school/district accountability to student performance" than districts in the moderate poverty category (20 percent vs. 14 percent).

As expected, districts in "early reform" states reported significantly more progress than the average district in the United States in many areas of reform (see Table 1 at end of text). The biggest differences were in "developing assessments" (31 percent vs. 16 percent), "linking school/district accountability" to student performance (30 percent vs. 15 percent), and "linking professional development to standards" (34 percent vs. 18 percent). Since assessments and accountability are an integral part of the reform agendas of these states, these findings should not be surprising. It would also not be surprising if the pressure of the assessment led directly to more focused professional development efforts. These findings show the considerable influence that state level policies have on reform at the local level. Districts that received federal Goals 2000 funding were significantly more likely to report a "great deal" of progress in only one area of reform— "building partnerships with

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[7] The Goals 2000: Educate America Act was passed in 1994. In 1995, over $400 million was awarded to states, and states were obligated to pass 90 percent along to school districts. The amount of Goals 2000 funding, and the precise purposes to which this funding was put, varies from district to district.

[8] For creating these figures, districts were grouped into the following poverty categories based on the census data: low poverty (<5 percent of children ages 5 through 17 in poverty); moderate poverty (5-25 percent of children in poverty); high poverty (≥25 percent of children in poverty).

parents/ community."

Multivariate Results

In this section, we examine simultaneously the effect of district size, poverty, location in an "early reform" state, and being a recipient of a Goals 2000 grant on reports of reform progress (see Table 2 at end of text). Poverty and district size (log) are entered in the regression as continuous variables. We standardize each of these variables by subtracting its respective mean so that the intercepts are estimates for districts with mean poverty and mean district size for the total sample. "Early reform" status and "Goals 2000 subgrantee" are dummy variables.

The results show that even when we include this full set of district-level variables, district size shows significant positive effects on all areas of reform (see Table 2 at end of text). Being in an "early reform" state shows significant and generally large positive effects on three out of the six areas, and approaches significance on a fourth area. It is interesting that the areas in which location in an "early reform" state has its greatest effect—developing assessments, linking professional development to standards, and linking accountability to student performance—are those areas where districts nationally, on average, report the least progress. The findings for poverty and Goals 2000, where we might expect to pick up possible federal program and policy effects, are insignificant or slightly negative. We should be careful interpreting this result, however, since these districts are also likely to face the greatest educational challenges and, thus, the least likely to show much progress in the short run. A different picture might emerge over time. We also examined whether there was an interaction effect between district size and poverty, i.e., whether large districts with high poverty rates were different from large districts with low poverty rates. In general, no significant interactions were evident, though one area of reform — aligning curriculum and instruction with standards—approached significance, suggesting that districts serving students from poor backgrounds may benefit less from large size in making reform progress.

The above analysis shows the relationship between district-level characteristics and district-level reports of progress. Given possibly loose linkages between levels in education organization (Weick, 1976; March and Olsen, 1976; Hannaway and Sproull, 1979), we cannot assume that factors associated with reports of progress at the district level are also associated with progress at the school level. The section that follows examines the extent to which significant predictors of district-level progress are also associated with reports of reform progress at the school level.

District Size and Reform Progress—School-Level Analysis

While the school-level data are not nested within the particular districts about which we have data, they provide reports on the progress of reform at the school level for a nationally representative sample of schools, though the survey items in the district and the school surveys are not identical (see Appendix). Principals reported the extent to which their schools were implementing various aspects of reform. We examine the relationship between district-level characteristics and reports of progress at the school level by assigning to each school in the sample its district size (enrollment), which is, as we have seen, significantly related to reports of progress by district-level administrators and which is available from the Common Core of Data, 1993–94 (CCD).

Descriptive Results

Like district-level administrators, a large fraction of principals reported their schools were implementing many aspects of reform to a "great extent." For example, over half (56 percent) of the schools reported they were using content standards in math to "a great extent," and about half of the schools reported the same for reading. Smaller fractions of schools, however, reported that they were implementing other aspects of reform to "a great extent." For example, only 14 percent of the principals reported using "parent involvement activities to help parents work with their children to

achieve high standards" to a great extent, and less than 30 percent reported having assessments linked to standards (see Figure 3 at end of text).

As was the case at the district level, principals of schools in larger districts were more likely to report a "great extent" of progress in implementing aspects of reform than principals of schools in smaller districts (see Figure 4 at end of text). Some of the differences are large. For example, about one-third of schools in the smallest districts (enrollment between 300 and 2500) reported "using content standards in reading" a great deal while 63 percent of schools in the largest districts (enrollment 25,000+) reported doing the same. Schools in the largest districts reported using a strategic plan at more than twice the rate of the those in the smallest districts (54 percent vs. 24 percent). And while only 23 percent of schools in the smallest districts reported using assessments for school accountability to a "great extent," 43 percent of schools in the largest districts did. The only areas where there does not appear to be a clear district size relationship is in the use of "instructional materials" and "innovative technologies."[9] Table 3 also shows that while reported progress tends to be greater in each successive size category, the largest jump most often occurs between the smallest districts and districts of the next size.

Again, similar to the findings for school districts, schools in the lowest poverty (most affluent) districts tend to report somewhat higher levels of progress in implementing reform, although the differences were not usually significant[10] (see Table 3 at end of text). Schools in the highest poverty districts, however, were significantly more likely than schools in districts of moderate poverty to report

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[9] The following are the correlations between (log) district size and the various aspects of reform progress reported at the school level: reading/language arts content standards (.21***); math content standards (.19***); science content standards (.16***); history/social science content standards (.19***); strategic planning (.19***); professional development (.15***); instructional materials (.04); innovative technologies (-.00); assessments for student performance (.10***); assessments for school accountability (.13***); parent involvement (.08**). [***< .0001; **<.001]

[10] The only correlations between poverty and the measures of reported progress that were significant at <.05 were: strategic planning (.06*); instructional materials (-.06*).

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a "great extent" of progress in "strategic planning," "assessments used for accountability," "professional development," and "restructuring the school day."

The school sample was not stratified by early reform status, so a relatively small number of schools (58) from these states were included in the sample.[11] Some of the differences appear large and in the expected direction. For example, 46 percent of the schools in the "early reform" states report that "assessments [are] used for school accountability" to a "great extent" and only one-third of other districts report the same, but with such a small sample in the "early reform" states, the standard errors are too large for differences to be significant.

Multivariate Results

As with the district level results, we examined the effect of district size, poverty, and location in an "early reform" state simultaneously on the school-level reports of progress. Controlling for whether the school is a middle or high school, separate models for each aspect of reform are run in order to provide a detailed picture of effects. The possibility of an interaction effect of district size and district poverty as well as the interaction of district size and school poverty is also examined.

Table 4 shows regression results for reported progress in each area of reform. As can be seen, larger district size is positively and significantly associated with reports of progress in eight of the twelve reform areas examined. District poverty often shows negative effects, and in two cases ("content standards: science"; "content standards: history/soc studies") the associations are negative and significant. The only reform area that is positively and significantly associated with poverty is "restructuring the school day." Table 4 also shows that associations with location in an "early reform" state tend to be insignificant, with the exception of a negative association with "instructional materials." The lack of effects here is likely a consequence of the small number of schools in the sample in these

[11] The only correlations between being in an "early reform" state and measures of reported progress that were significant at <.05 were: instructional materials (-.07*); assessments for school accountability (.06*); parent involvement (.08*).

states.

Most importantly for the purposes of this paper, the results show significant negative interactions of district size and district poverty on reports on the extent of use of content standards in all four content areas: reading, math, science, and history/social studies. Consistent with research discussed earlier, larger district size appears to have beneficial effects for schools, but these effects are significantly reduced when the district is also poor.[12]

The overall picture, however, strongly suggested by independent reports at the district and the school level is that, at least during a time of reform, large district size may have important advantages that facilitate reform. We suspect these effects may be partly due to the greater capacity of larger districts to retrieve and utilize information and assistance from external resources, as discussed below.

Networks of Information and Assistance

A likely reason larger districts have progressed farther and faster in reform than smaller districts is that they are better connected to helpful sources of information and assistance. Indeed, our findings suggest that, at least in the early days of reform, smaller districts were left to sort out standards-based reform more or less on their own (see Figure 5 at end of text). For example, the largest districts (those with enrollments above 25,000) are about twice as likely as small districts (enrollments less than 2,500) to report finding "subject matter associations" very helpful in their reform efforts (52 percent vs. 26 percent).[13] They are also more than twice as likely to find education periodicals and publications helpful (56 percent vs. 27 percent). Similarly, nearly one-third (32 percent) of the largest districts find "contacts with federal officials" very helpful, compared to only 9 percent of the small districts. Larger districts, of course, have the specialized staff available, referred to as "boundary-spanning" staff in the organizations literature, that enables them to take fuller advantage of external resources.

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[12] These same results hold when we substitute school-level measures of poverty rather than district-level measures.

[13] These reports are based on the responses of districts who had had contact with these various sources of assistance.

Summary and Implications

This study was concerned with the question of whether districts make a difference in advancing standards-based education reform. It addressed the question by examining the relationship between district characteristics and reports of reform progress at the district level and at the school level. District size and district poverty were of particular interest. The results showed that reports of progress varied systematically with district size and to a lesser extent with district poverty. Larger district size appears to contribute to reform progress in significant ways, and the results are evident at both the district level and the school level. Districts and schools with lower levels of poverty, i.e., districts serving more affluent students, appear to be making greater progress than those with higher poverty levels, i.e., districts serving more disadvantaged students. The results show further that the beneficial effects of large size are significantly lower when the district is also poor. According to reports at the district level, states assertively seeking reform also appear to promote reform progress in very significant ways.

The findings suggest that districts are important players in standards-based reform. Moreover, larger districts may not be part of the education problem; they may, in fact, be part of the solution. They appear to be better able to promote or facilitate reform than smaller districts, probably because they have greater specialized areas of expertise, such as dedicated units for assessment and professional development, slack resources available to direct to reform due to economies of scale, and better access to technical assistance. As a consequence, larger districts may be better structured as "learning organizations" than smaller districts. At the same time, the findings draw attention to the special challenges of reform faced by small districts and call for targeted technical assistance to these districts or collaborative strategies that would allow these districts to pool resources and acquire specialized help when needed, and access to information so as not to have the districts be left behind. In addition, the findings show that aggressive state action has significant effects on progress at the district level and suggest similar effects at the school level.

The findings also have equity implications. Higher poverty districts appear to be lagging in

some areas of reform, and poverty appears to diminish significantly the advantages of large district size. In short, the strategies that appear to work well in many districts do not appear to work as well in districts with large poverty populations. Until and unless we are able to identify ways to facilitate reform in these districts, one consequence of current efforts—to the extent that they improve student performance—might be increased performance disparities, even though districts of all types appear to be making reform headway.

APPENDIX A

REPORTS OF PROGRESS (Part (c) of Question 1)—from the *District Survey*

1. The *Goals 2000: Educate America Act* (Goals 2000) and the reathorization of the *Elementary and Secondary Education Act (ESEA)* support comprehensive standards-based education reform... Report (a) the extent to which you UNDERSTAND what it means to implement each of the following components of reform in your district; (b) how much CHANGE will be required in your district to implement each component; and (c) your district's actual progress in IMPLEMENTING each component. (Circle your responses.)

c. Progress Implementing

Great Deal	Have not Begun	Little Progress	Some Progress	A of Progress
Establishing high content and performance standards for all students	1	2	3	4
Aligning curricula and instructional materials with standards				
Developing or adopting assessments linked to standards				
Linking school/district accountability to student performance				
Building partnerships with parents/community				

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REPORTS OF PROGRESS—from the *School Survey*

1. To what extent does your school use content standards to guide curriculum and instruction in

	Not at all	Small extent	Moderate extent	Great extent
	1	2	3	4
a. Reading/language arts				
b. Mathematics				
c. Science				
d. History/social studies				

4. Various strategies are being proposed and developed to support comprehensive reform. In Column A, indicate the extent to which the following strategies are being implemented in your school. (1=not at all, 2=small extent, 3=moderate extent, 4=great extent)

a. a strategic plan for enabling all students to achieve to high levels of performance

b. professional development to enable staff to teach the content students are expected to learn

c. instructional material such as textbooks that expose students to the content they are expected to learn

d. innovative technologies such as the Internet and telecommunications-supported instruction that expose students to the content they are expected to learn

e. assessments that measure performance against the content students are expected to learn

f. assessments that are used for school accountability and continuous improvement

g. parent involvement activities that help parents work with their children to achieve to high levels of performance

h. restructuring the school day to teach content in more depth

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Table 1. Percent of Respondents Reporting a "Great Deal" of Progress in Reform Areas
District Level Reports

REFORM AREA	ALL	DISTRICT SIZE[a]				DISTRICT POVERTY[b]			EARLY REFORM		GOALS 2000	
		300-2500	2501-10K	10,001-25K	25K+	<5%	5=<25%	>25%	Early Reform	Other	Goals 2000	Other
ESTABLISHING CONTENT / PERFORMANCE STANDARDS	25	24	27	34**	41	35***	24	22	30	25	24	27
ALIGNING CURRICULAR / INSTRUCTIONAL MATERIALS	23	21	27**	31	31	27	23	23	34***	23	25	24
DEVELOPING / ADOPTING ASSESSMENTS	16	14	18*	26***	26	17	15	18	31***	16	17	16
LINKING PROFESSIONAL DEVELOPMENT	19	17	23***	23	22	22	18	20	34***	18	22	18
LINKING SCHOOL / DISTRICT ACCOUNTABILITY	16	13	19***	24	34**	20**	14	20**	30***	15	15	17
BUILDING PARTNERSHIPS W/ PARENTS / COMMUNITY	22	18	28***	37**	48**	29**	22	19	26	22	26**	20

*** = p<.001
** = p<.01
* = p<.05
[a] tests difference with preceding size category
[b] tests difference with adjacent poverty category

Figure 1. Percent of Respondents Reporting Progress in Reform Areas
District-Level Reports

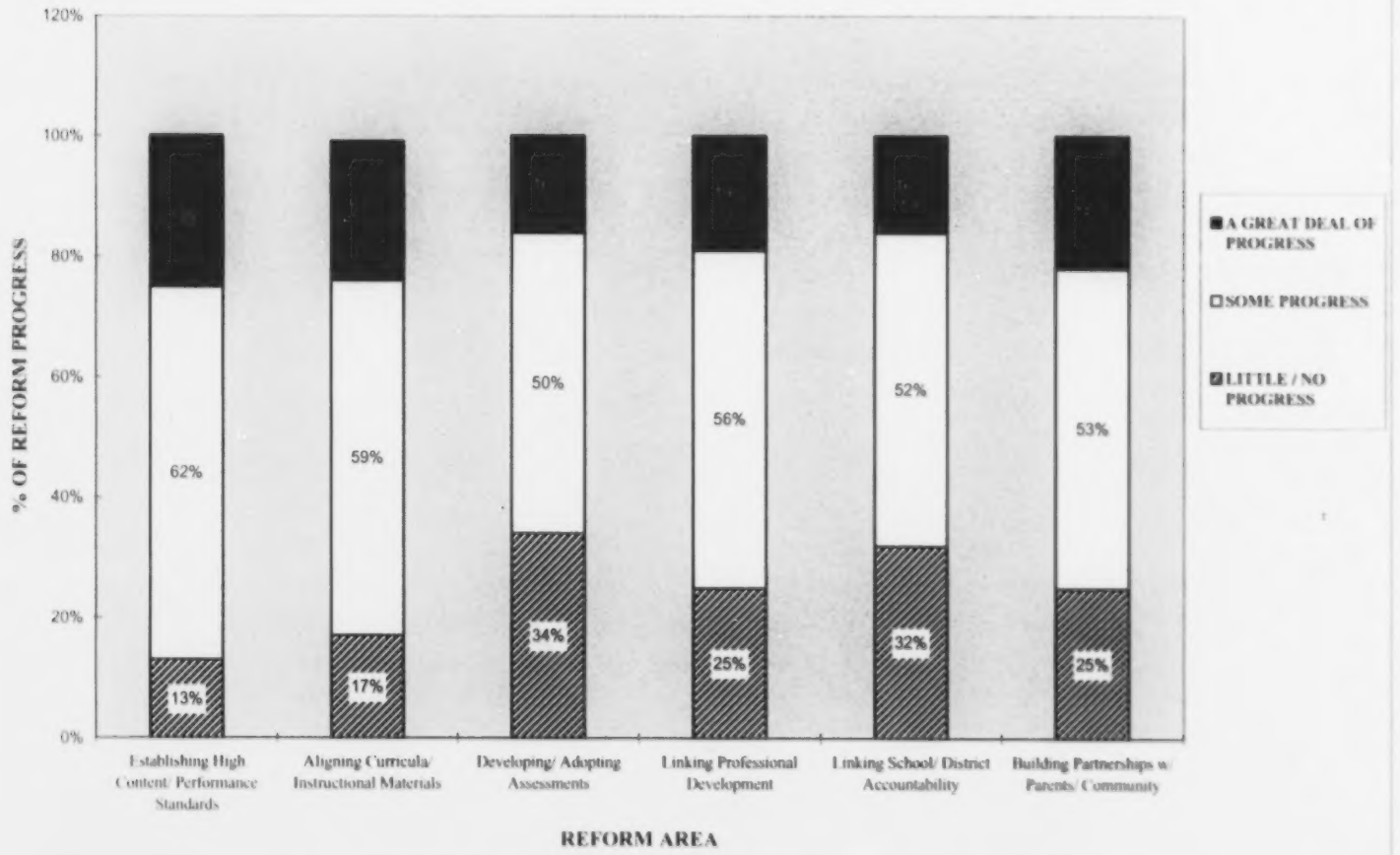

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Table 2. Regression Results: Effects of District Size, Poverty, Goals 2000, Early Reform State Location on Reform Progress

District-Level Results

Variable	Intercept	DistSize	DistPov	Goals	Early Reform	DistSize*DistPov
Establishing high standards	.271	.034 **	-.003 *	-.043	.033	-.001
Aligning curriculum and instruction w/ standards	.235	.035 **	-.002 +	.001	.079 +	-.002 +
Developing assessments linked to standards	.161	.035 **	.001	-.007	.119 **	.000
Linking professional development to standards	.185	.028 **	.000	.016	.113 **	.000
Linking accountability to student performance	.168	.036 **	.001	-.033	.112 **	.000
Building partnerships w/ parents and community	.205	.058 **	-.002 *	.039	.006	.000

*** = p<.001
** = p<.01
* = p<.05
+ = p<.10

Figure 2. Percent of Respondents Reporting "A Great Deal" of Progress in Reform Areas, by District Size
District-Level Reports

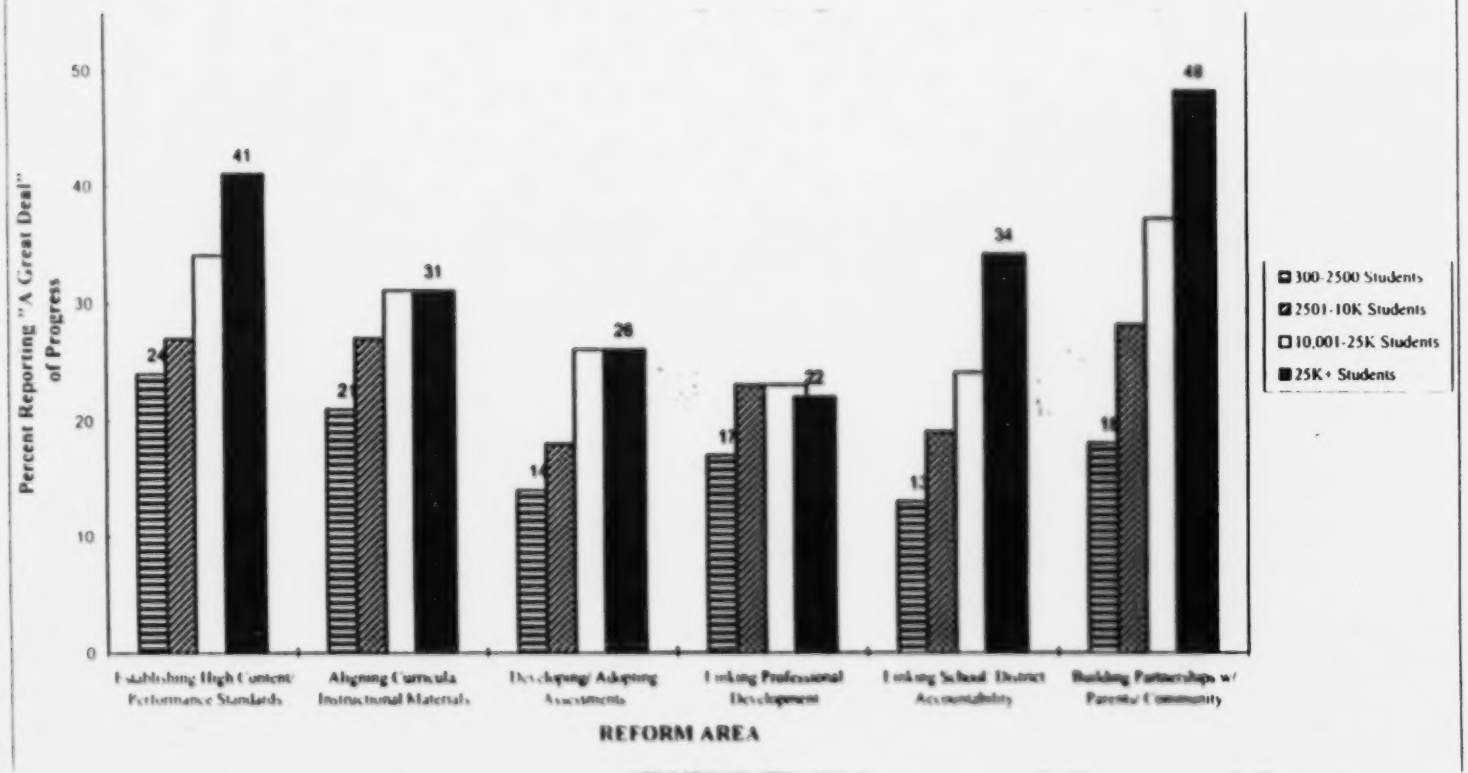

Table 3. Percent of Respondents Implementing Reform Area to a "Great Extent"

School-Level (Principal) Reports

REFORM AREA	ALL	DISTRICT SIZE[a]				DISTRICT POVERTY			EARLY REFORM	
		300-2500	2501-10K	10,001-25K	25K+	<5%	5>=25%	>25%	Early Reform	Other
CONTENT STANDARDS: READING	50.65	33.41	53.77***	60.52	62.72	53.71	49.68	52.08	43.90	51.07
CONTENT STANDARDS: MATH	56.24	41.06	59.04**	65.43	66.30	66.67	54.02	56.19	48.26	56.73
CONTENT STANDARDS: SCIENCE	44.25	29.49	49.14***	51.39	52.08	52.13	43.87	40.38	43.95	49.13
CONTENT STANDARDS: HIST/SOC ST	37.50	21.57	41.64***	43.31	49.13	41.39	37.56	35.06	37.25	41.57
STRATEGIC PLANNING	38.68	24.35	43.23***	34.86	54.40**	43.32	35.27	46.31*	31.62	39.12
PROFESSIONAL DEVELOPMENT	37.75	28.4	37.72	38.18	50.35	43.59	34.65	43.77*	33.68	38.00
INSTRUCTIONAL MATERIALS	42.89	41.39	41.32	44.35	46.34	60.64	39.23**	41.69	28.28	43.80
INNOVATIVE TECHNOLOGIES	22.06	21.82	22.18	25.09	19.98	24.85	22.32	18.08	22.10	22.06
ASSESSMENTS LINKED TO STANDARDS	29.79	22.15	31.80	30.95	36.57	39.01	27.05	31.15	30.34	29.75
ASSESSMENTS USED FOR SCHL ACCTBLTY	34.26	23.54	37.93*	35.05	42.94	41.20	30.95	39.60*	46.19	33.52
PARENT INVOLVEMENT	13.69	10.65	12.83	14.87	18.31	16.42	12.37	15.99	24.16	13.04
RESTRUCTURING SCHOOL DAY	16.89	13.62	12.61	18.07	26.95	7.63	16.76*	24.16*	24.08	16.44

*** = p<.001

** = p<.01

* = p<.05

[a] tests difference with preceding size category

Figure 3. Percent of Respondents Reporting Progress in Reform Areas
School-Level (Principal) Reports

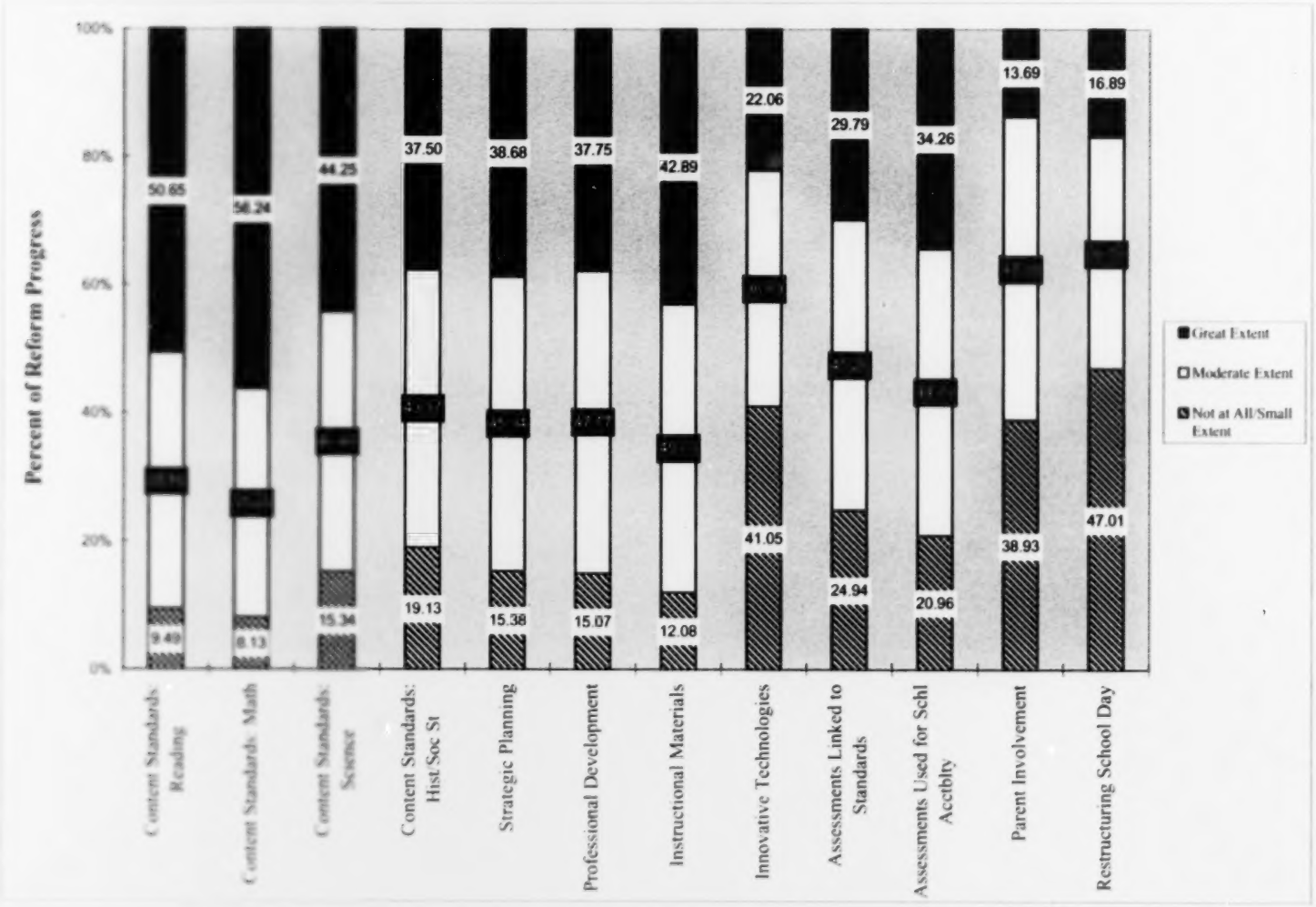

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Table 4. Regression Results: Effects of District Size, Poverty, District Size*District Poverty on Reform Progress

School-Level Results[a]

Reform Area	Intercept	DistSize	DistPov	Early	DistSize*DistPov
CONTENT STANDARDS: READING	.558	.074 ***	-.002	-.142 +	-.003 **
CONTENT STANDARDS: MATH	.613	.068 ***	-.003 +	-.157 +	-.003 ***
CONTENT STANDARDS: SCIENCE	.447	.065 ***	-.004 *	-.004	-.002 *
CONTENT STANDARDS: HIST/SOC ST	.382	.071 ***	-.003 *	-.015	-.002 *
STRATEGIC PLANNING	.421	.055 ***	.001	-.180	.000
PROFESSIONAL DEVELOPMENT	.413	.043 **	.001	-.067	.001
INSTRUCTIONAL MATERIALS	.492	.008	-.003	-.173 *	.000
INNOVATIVE TECHNOLOGIES	.210	.100	-.002	-.012	-.001 +
ASSESSMENTS LINKED TO STANDARDS	.326	.029 +	-.001	-.021	-.001
ASSESSMENTS USED FOR SCHL ACCTBLTY	.323	.042 ***	.001	.105	.000
PARENT INVOLVEMENT	.152	.015	.000	.104	.001
RESTRUCTURING SCHOOL DAY	.136	.026 *	.004 **	.067	.000

*** = p<.001
** = p<.01
* = p<.05
+ = p<.10

[a] Results control for whether the school is a middle school or high school

Figure 4. Percent of Respondents Implementing Reform Areas to "A Great Extent," by District Size
School-Level (Principal) Reports

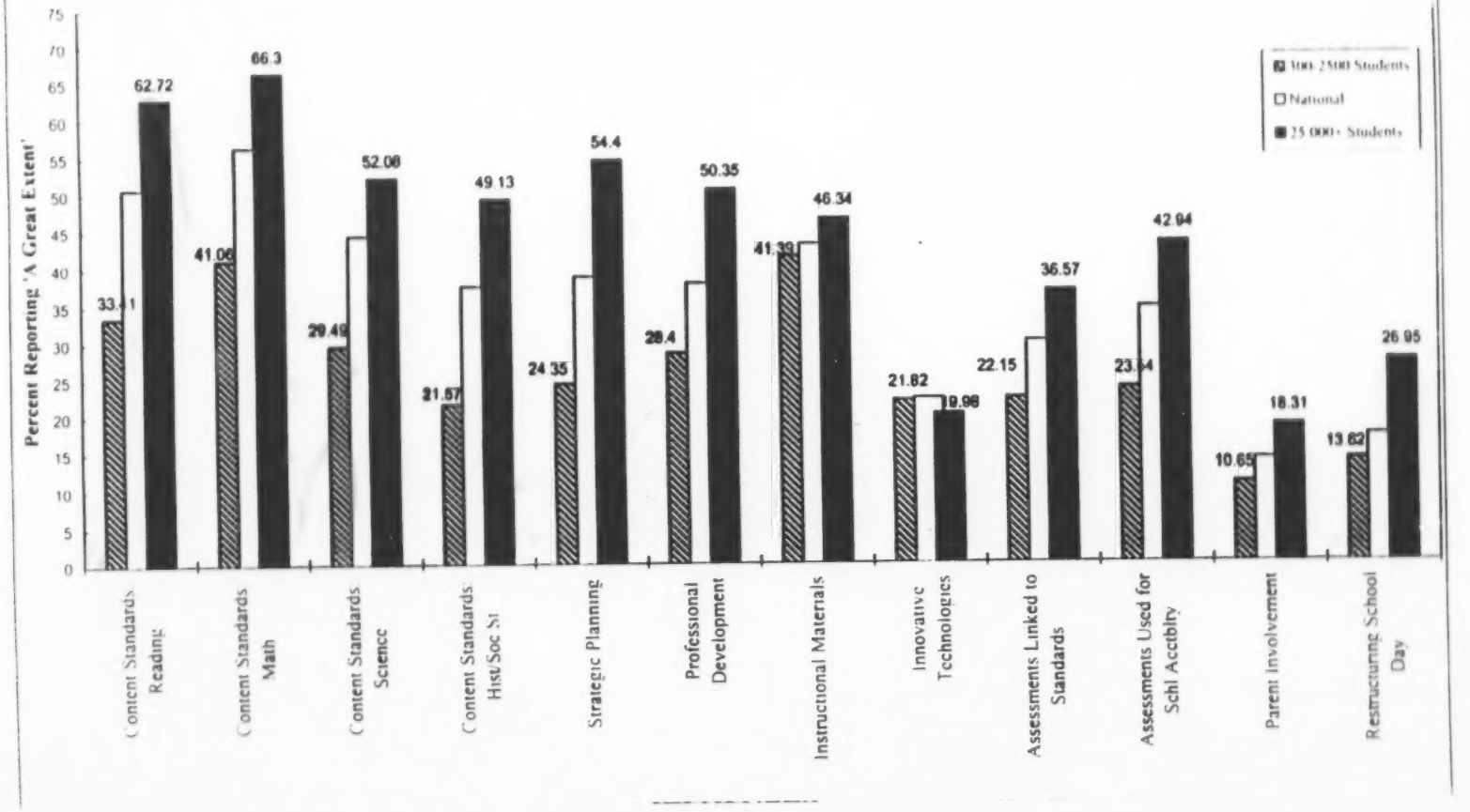

Figure 5. Percent of Respondents Reporting Sources of Information/Assistance "Very" Helpful, by District Size